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Composite Claim Chart of U.S. Patent No. 8,191,091

Asserted claims 13, 14, 15, 16, 18, 20, 21, 23, 24, 26, 27, and 30 of U.S. Patent No. 8,191,091 ("the '091 patent") are invalid as obvious in view of one or more of the following prior art references, in combination with other prior art:[1]

- U.S. Patent No. 4,484,217 (the "'217 patent")
- U.S. Patent No. 4,616,263 (the "'263 patent")
- U.S. Patent No. 4,684,980 (the "'980 patent")
- U.S. Patent No. 3,919,462 (the "'462 patent")
- U.S. Patent No. 4,536,791 (the "'791 patent")
- U.S. Patent No. 4,439,784 (the "'784 patent")
- U.S. Patent No. 4,331,974 (the "'974 patent")
- U.S. Patent No. 4,054,911 (the "'911 patent")
- U.S. Patent No. 4,215,369 (the "'369 patent")
- European Patent Application No. 0128555A2 (the "'555 patent")

Asserted Claims	Disclosure
13[pre]. A method of decrypting programming at a receiver station, said method comprising the steps of:	To the extent the preamble is limiting, see disclosures below. *See e.g.*: '791 patent, 2:64-66 ("The present invention includes an intelligent addressable converter designed to convert and descramble video for up to 55 CATV channels.") '462 patent, Abstract ("Method and apparatus for scrambling and unscrambling television video and audio signals in a subscription television system in which program selections of subscribers are known at a central transmitting site, and control signals encoded into vertical blanking intervals of the video signals are addressed to receivers authorized to receive unscrambled transmissions, to selectively control

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[1] Apple's Invalidity Contentions are based, in part, upon PMC's apparent interpretations of the asserted claims, to the extent those interpretations can be discerned from PMC's Infringement Contentions in this case. Apple disagrees with PMC's Infringement Contentions and these Invalidity Contentions are not, and should not be construed as, an endorsement or acceptance by Apple of any of PMC's contentions or interpretations.

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	unscrambling at those receivers. In an unscrambler at each subscriber's receiver, the control signals are decoded, and, if addressed to the particular subscriber's receiver, operate to enable or disable the unscrambler, or to frequently vary its mode of operation, thereby greatly increasing the security of the system and deterring viewing of scrambled transmissions. Video scrambling and unscrambling are effected by inversion of selected horizontal lines of a transmitted television picture, and possible modes of scrambling and unscrambling include inversion of alternate groups of equal numbers of lines, inversion or non-inversion selected on a line-by-line basis, with an appropriate control signal being transmitted with each line, and inversion or non-inversion in a preselected sequence, as determined by synchronized logic at the receivers and the transmitting site.") '462 patent, 1:7-11 ("This invention relates generally to techniques for scrambling and unscrambling television signals, and, more particularly, to improved scrambling and unscrambling techniques applied to a subscription television system controllable by a central computer.") Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
13[a]. receiving an encrypted digital information transmission including encrypted information;	*See e.g.*: '911 patent, 4:4-54 ("The aforementioned comparator means and buffer storage means are operatively connected to the video signal transmission media for receiving the continuously remotely transmitted information and for controlling the loading of the appropriate portions of this information, whether it be selected control instructions or selected video displayable data, into the local storage means. Both the data and the sets of control instructions are transmitted as pseudo video scan lines, each of which has a television video scan line format and is capable of comprising a complete self-contained packet of digital information sufficient to provide an entire displayable row of video data characters in the instance of data, and a packet of digital information sufficient to provide at least a portion of one of the sets of instructions in the instance of control instructions, each of the pseudo video scan lines preferably having an associated transmission time equivalent to that of a television video scan line. It should be noted that the terms pseudo video scan line and television video scan line as used throughout the specification and claims are being utilized as defined in U.S. Pat. No. 3,889,054. The information retrieval system may function as a row grabbing video display terminal, such as the type described in U.S. Pat. No. 3,889,054, in which the continuously video displayable selectable frame is updated on a displayable video row-by-row basis dependent on the real time data information content of the received pseudo video scan line pertaining to the

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selected data if the selected set of processing control instructions corresponds to said row grabbing function. Thus, the terminal of the present invention provides an information retrieval system capable of capturing packets or rows of data and/or control program instructions from a continuously transmitting remote data base comprising a plurality of different control programs and different data rows to provide a selectable purpose variable function terminal whose information display as well as the particular type of processing thereof to provide the processed information display can individually be substantially simultaneously varied for each terminal of a plurality of terminals so that every user is not only capable of individually determining what video displayable information is to be received, but also how the particular user terminal which receives this information is to process it, all of which is continuously remotely transmitted over a common television distribution system which would be normally utilized for the video information.")

'369 patent, 1:6-8 ("This invention relates to a digital transmission system for television video signals with high transmission efficiency.")

'369 patent, 1:67-2:12 ("The present transmission system comprises a transmitter and a receiver, said transmitter comprising a plurality of input terminals for receiving respective television video signals to be transmitted, a plurality of encoding units for encoding said respective video signals into digitized video signals, and a multiplexer for multiplexing said respective digitzed video signals in a time division manner; and said receiver comprising a demultiplier for receiving the multiplexed video signal transmitted from said multiplexer and for separating the same into said digitized video signals, and a plurality of decoding units for decoding said digitized video signals given from said demultiplexer into said respective television video signals….")

'462 patent, Abstract ("Method and apparatus for scrambling and unscrambling television video and audio signals in a subscription television system in which program selections of subscribers are known at a central transmitting site, and control signals encoded into vertical blanking intervals of the video signals are addressed to receivers authorized to receive unscrambled transmissions, to selectively control unscrambling at those receivers. In an unscrambler at each subscriber's receiver, the control signals are decoded, and, if addressed to the particular subscriber's receiver, operate to enable or disable the unscrambler, or to frequently vary its mode of operation, thereby greatly increasing the security of the system and deterring viewing of scrambled transmissions. Video scrambling and unscrambling are effected by inversion of selected horizontal lines of a transmitted television picture, and possible modes of scrambling and unscrambling include inversion of alternate groups of equal numbers of lines, inversion or

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	non-inversion selected on a line-by-line basis, with an appropriate control signal being transmitted with each line, and inversion or non-inversion in a preselected sequence, as determined by synchronized logic at the receivers and the transmitting site.")

'462 patent, 1:12-23 ("In subscription television, or "pay-T.V." systems, subscribers select programs that they wish to view, and pay to have those programs transmitted to their television receivers, usually along a coaxial cable. One requirement for such systems is that the transmitted signals should be unintelligible to non-subscribers or to subscribers who have not paid for a particular program. Various methods have been suggested for scrambling video signals, such as by inserting time delays, or by inverting portions of the video signals so that white and black images are reversed on portions of the television screen.")

'462 patent, 4:17-37 ("As shown in the drawings for purposes of illustration, the invention is particularly well suited for use in a computer controlled subscription television system, the principal components of which are shown in FIG. I. In such a system. signals from a television program source 12, such as a television camera or a television network, are transmitted to paying subscribers, typically. but not necessarily, by means of a coaxial cable 13. In order to prevent non-subscribers and subscribers who have not paid for a particular program from receiving the transmission, the signals from the television program source I2 are processed by a scrambler-encoder 14, which modifies the signals in some fashion to make them unintelligible to an unauthorized receiver. A modulator 15 uses the signals from the scrambler-encoder 14 to modulate a high frequency carrier for transmission along the cable I3. The modulator 15 is conventional except that its audio portion is realigned to scramble audio signals by shifting the audio carrier and thereby increasing the frequency difference between the video and audio carriers.")

'217 patent, 5:8-22 ("The illustrated system generally includes an encoder provided at a transmission station generally indicated at 10 and a decoder provided at each subscriber location as is generally indicated at 12. The encoder and decoder of FIG. 1 are provided in a subscription television system in which normal programming (e.g., "unscrambled", non-pay, commercial programming) and scrambled STV programming are transmitted and received over respective transmiting [sic] and receiving antennas TA and RA or over a cable or other transmission medium. In a multiple audio system such as is disclosed in U.S. patent application Ser. No. 188,738 of Robert W. Field et al, now U.S. Pat. No. 4,398,216, a third mode of operation with unscrambled video and multiple, selectable audios may be provided.")

'217 patent, 6:15-41 ("A data generator 26 conventionally generates coded data (e.g., digital codes), for transmission with the TV signal, although such data may be transmitted separately from the TV signal. The |

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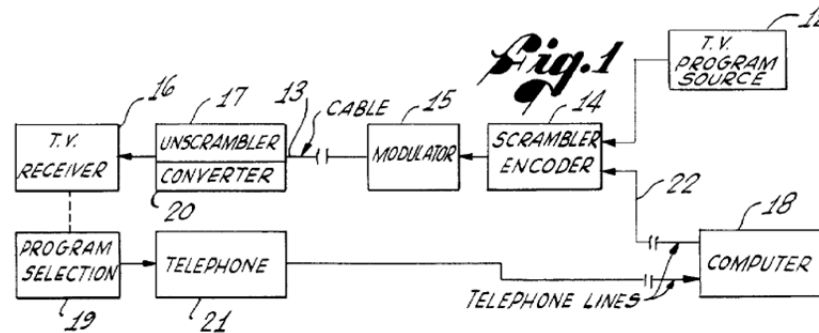| | data may include decoder addresses, program costs, use codes, credit data, tier codes, program I.D. codes, category codes and the like as will be described in greater detail hereinafter. In the illustrated embodiment, the data are conventionally combined with the video signal by a suitable combiner 28 and are transmitted with the video signal in a nonprogram portion thereof, e.g., the vertical interval. In this regard, a suitable sync signal such as the vertical sync signal may be used to synchronize the generation of the data with the video signal to ensure proper insertion of the data in the video signal. Of course, the data may be transmitted in the audio channel, particularly in a multiple audio system of the type disclosed in the above-referenced Field et al. U.S. Pat. No. 4,398,216. With continued reference to FIG. 1, the video and audio signals with the desired data inserted are supplied to conventional AM and FM exciters and transmitters 30 for transmission to the decoders at each subscriber location 12. In a broadcast system, the signals broadcast via antenna TA are received via receiving antenna RA and are applied to a suitable conventional electronic tuner 32 which selects a desired TV signal (i.e., a desired channel).")

'217 patent, 8:49-65 ("As will be seen hereinafter, the data inserted into the TV signal at the encoder 10 includes, in addition to any data necessary for unscrambling, address data for addressability of individual decoders, category and tier data for limiting access to specific categories and tiers of program material, and IPC data of various types for control of impulse purchases and billing. All of this data may be transmitted in a conventional digital code format, preferably after secure encrypting, with each data type identified in any suitable manner (e.g., by the first few digits of the signal, by the location of the data in the incoming signal, by the format of the data, etc). Data insertion and identification techniques, as well as secure encrypting and decrypting techniques, are well known in the art and any suitable technique capable of accommodating the variety of data disclosed herein may be used.")

'791 patent, 3:27-39 ("Moreover, the present invention provides a relatively inexpensive and simple cable communication system having the capability of transmitting data signals in a video format over substantially the entire video field of selected television program channels. By transmitting data in the video format over these dedicated data channels, the present invention minimizes the need for special additional expensive equipment, particularly special data receiver equipment for each converter unit. Rather, each addressable converter of the present invention is readily adapted to receiving selected lines of data transmitted in video format without requiring additional expensive receiver equipment.") |

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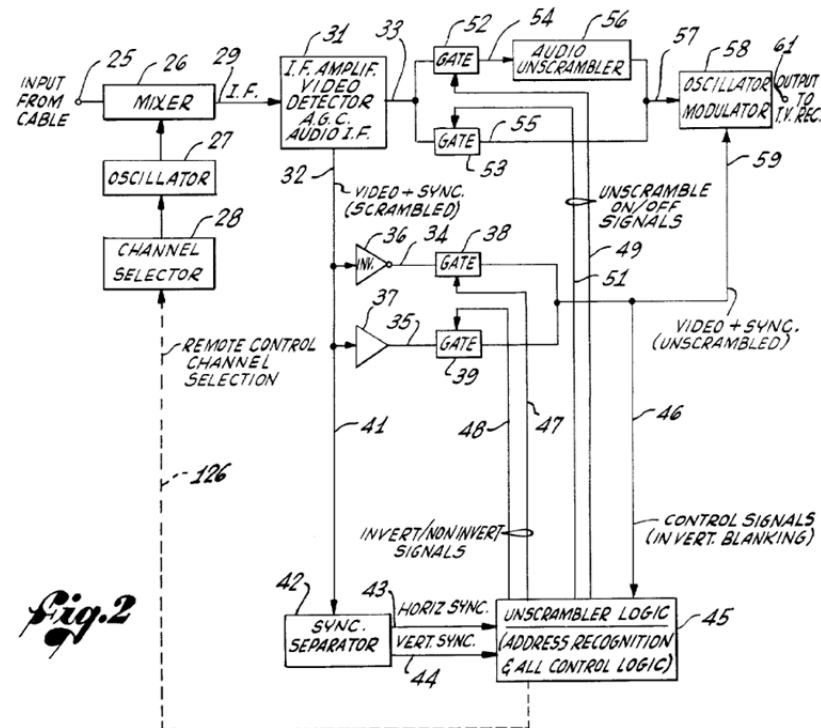
'462 patent, Fig. 1:

'462 patent, Fig. 2:

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'791 patent, Fig. 6:

FIG. 6

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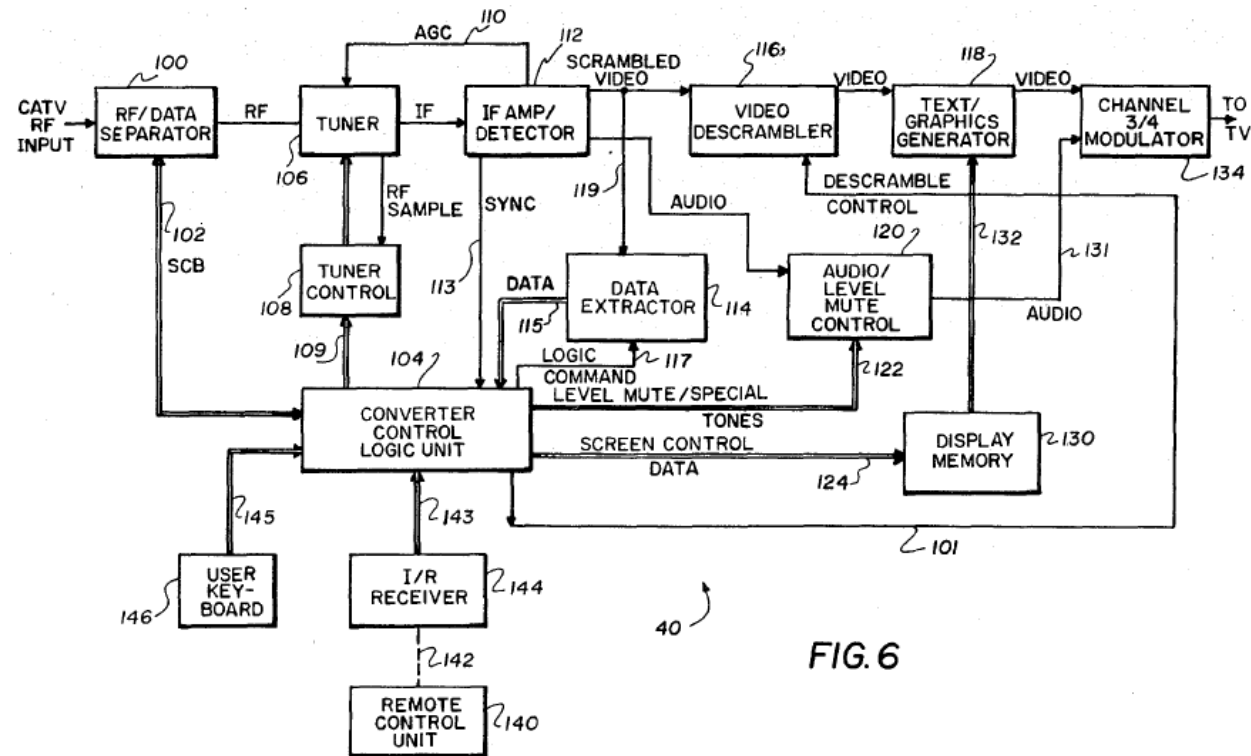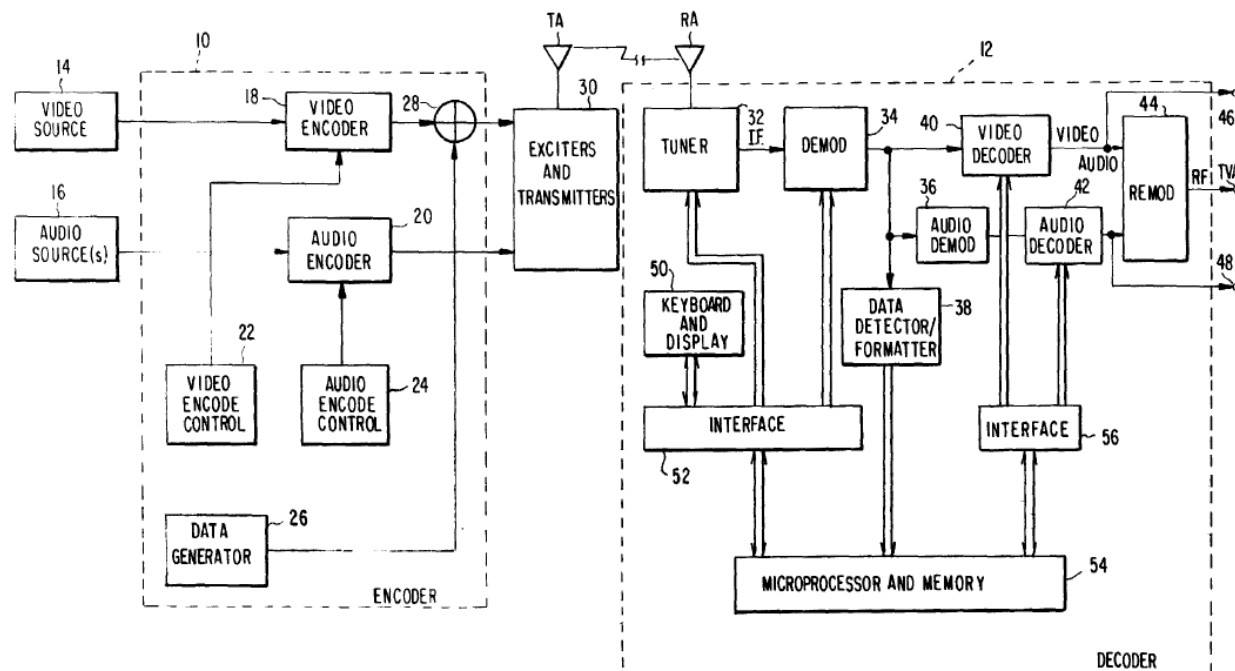|	
	'217 patent, Fig. 1: FIG. 1 Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
13[b]. detecting in said encrypted digital information transmission the presence of an instruct-to-enable signal;	*See e.g.:* '462 patent, Abstract ("Method and apparatus for scrambling and unscrambling television video and audio signals in a subscription television system in which program selections of subscribers are known at a central transmitting site, and control signals encoded into vertical blanking intervals of the video signals are addressed to receivers authorized to receive unscrambled transmissions, to selectively control unscrambling at those receivers. In an unscrambler at each subscriber's receiver, the control signals are decoded, and, if addressed to the particular subscriber's receiver, operate to enable or disable the

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	unscrambler, or to frequently vary its mode of operation, thereby greatly increasing the security of the system and deterring viewing of scrambled transmissions. Video scrambling and unscrambling are effected by inversion of selected horizontal lines of a transmitted television picture, and possible modes of scrambling and unscrambling include inversion of alternate groups of equal numbers of lines, inversion or non-inversion selected on a line-by-line basis, with an appropriate control signal being transmitted with each line, and inversion or non-inversion in a preselected sequence, as determined by synchronized logic at the receivers and the transmitting site.") '462 patent, 1:42-57 ("The present invention resides in a method and apparatus for scrambling and unscrambling television signals, wherein the mode of scrambling and unscrambling may be varied automatically and continually in order to increase the security of the system and to deter unauthorized viewers. Briefly, and in general terms, the method of the invention, as it relates to unscrambling at a receiver, includes the steps of receiving encoded control signals and encoded identifiers of authorized receivers along with scrambled television signals, decoding the encoded control signals and identifiers, comparing the received identifiers with a unique identifier associated with the receiver, and, if the comparison results in a match, automatically unscrambling the television signals in accordance with an unscrambling mode contained in the control signals.") '462 patent, 2:32-66 ("The scrambled video signals produced by inversion of some of the horizontal picture lines are unscrambled at each authorized receiver by one of the unscramblers, which are functionally complementary to scrambling means at the transmitter. In the preferred embodiment, receiver identifiers and control signals are encoded into a conventionally formed, composite video and synchronization signal, specifically in those portions of the video and synchronization signal relating to vertical blanking intervals, during which a conventional television picture tube has its electron beam returned to the top of the tube after scanning a complete field of the picture. In the unscrambler at a particular receiver, these identifiers and control signals are decoded, and the identifiers are compared with the unique identifier associated with the receiver. If a match is found, the control signals are further decoded and applied in the unscrambler to enable or disable unscrambling, to change the mode of unscrambling, or to select a particular program on a separate frequency channel. If no match is found, the control signals have no special meaning for the receiver in question. However, a special all-call" identifier is available to allow all receivers in the system to be controlled, regardless of whether or not they have been individually addressed to enable unscrambling. Also, certain control signals have meaning for all receivers which have been previously specifically addressed to enable unscrambling

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operations. In particular, an unscrambler synchronization signal, used to synchronize scrambling and unscrambling, is in this latter category, and, in one embodiment, the unscrambling mode for all enabled unscramblers may be changed by control signals not associated with a particular identifier.")

'462 patent, 6:36-60 ("In accordance with the present invention, the mode by which the scrambling and unscrambling operations are performed may be varied automatically and rapidly in order to increase the security of the system and to deter unauthorized viewing. In brief, the scrambler-encoder 14 (FIG. 1) encodes into the television signal control signals addressed to a particular unscramble l7 and directing it to initiate or terminate unscrambling operations, to change the mode of unscrambling, or to tune to a different incoming program. The unscrambler 17 (FIG. 1), and more specifically, the unscrambler logic 45 (FIG. 2), operate to decode the control signals and to perform the appropriate control function if it is addressed to the unscrambler 17 in question. If a subscriber has not paid or been charged for a particular program, the unscrambler 17 will not be directed to unscramble the program, which can be viewed, therefore, only in scrambled form. Since the scrambler-encoder 14 can be controlled to select a scrambling mode which results in extremely disconcerting patterns on the receiver 16, most unauthorized viewers are deterred from viewing a scrambled program. Furthermore, the system has a high degree of security, because the mode of scrambling may be rapidly varied in a practically random fashion.")

'462 patent, 7:47-68 ("The unscrambler logic 45 (FIG. 2) receives the composite video and synchronization signal over the line 46, this signal including the control signals encoded as illustrated and discussed with respect to FIG. 5a. In decoding these control signals, the unscrambler logic 45 utilizes horizontal and vertical synchronization pulses separated from the video signal by the synchronization separator 42 and transferred to the unscrambler logic 45 along the lines 43 and 44 respectively. It will be appreciated from FIG. 50, that there is no single vertical synchronization pulse as such, but rather a series of pulses during the vertical blanking interval. The vertical synchronization pulse transmitted along the line 44 is termed a stretched" vertical synchronization pulse and is developed in the synchronization separator 42, and illustrated in FIG. 5b. It will be seen that the stretched vertical synchronization pulse begins after the first group of equalizing pulses 73 in the vertical blanking interval, and ends after the final group of equalizing pulses 75 and immediately before resumption of the normally spaced horizontal synchronization pulses 76.")

'217 patent, 7:10-28 ("In STV mode, the video and/or audio signals are encoded (scrambled) by the encoders 18 and 20. Appropriate data signals are added to the encoded program signal and the composite signal is transmitted. Subscribers having a decoder with the proper decoding (unscrambling) and tier data

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can unscramble the received TV signal and supply the unscrambled signal to their TV sets for viewing and listening. Among the incoming data placed on the TV signal at appropriate times are, in addition to or as part of the data required for decoding, signals providing addressing capabilities for individual decoders, tiering and/or program content category signals, cost information signals relating to program charges for individual programs, program identification signals and credit information signals providing payment credits to individual decoders. As will be seen hereinafter, at least the cost, credit, program identification or use code and address data provide unique impulse purchase capability.")

'217 patent, 8:49-65 ("As will be seen hereinafter, the data inserted into the TV signal at the encoder 10 includes, in addition to any data necessary for unscrambling, address data for addressability of individual decoders, category and tier data for limiting access to specific categories and tiers of program material, and IPC data of various types for control of impulse purchases and billing. All of this data may be transmitted in a conventional digital code format, preferably after secure encrypting, with each data type identified in any suitable manner (e.g., by the first few digits of the signal, by the location of the data in the incoming signal, by the format of the data, etc). Data insertion and identification techniques, as well as secure encrypting and decrypting techniques, are well known in the art and any suitable technique capable of accommodating the variety of data disclosed herein may be used.")

'791 patent, 8:39-45 ("It should also be noted that scrambler controller unit 90 outputs a scramble/descramble timing signal on line 91 to the data formatter 88. This signal is added to the data which is sent to video switches 98 for transmission. This signal is utilized by the converter 40 as will be discussed later to control the descrambling of the video signal at the converter.")

'791 patent, 9:15-26 ("A conventional video descrambler unit 116 processes the scrambled base-band video signal from the tuner and provides a descrambled base band video signal which is directed to a text/graphics generator 118. The scramble/descramble timing signal generated by the scrambler controller 90 of HVP unit 52 and transmitted to converter 40 as part of the control data is processed by converter control logic 40 and input on line 101 to the video descrambler 116 to control is operation. The channel sound information is amplitude adjusted or muted by an audio level/mute control unit 120 controlled by a signal on data line 122 from logic 104.")

'791 patent, 12:58-13:24 ("Reference is now made to FIG. 11 wherein the data formats are shown for the data transmitted on the vertical interval of the television signals between data control system 12 and addressable converter 40. As previously mentioned, the transmitted data is of two types, namely control
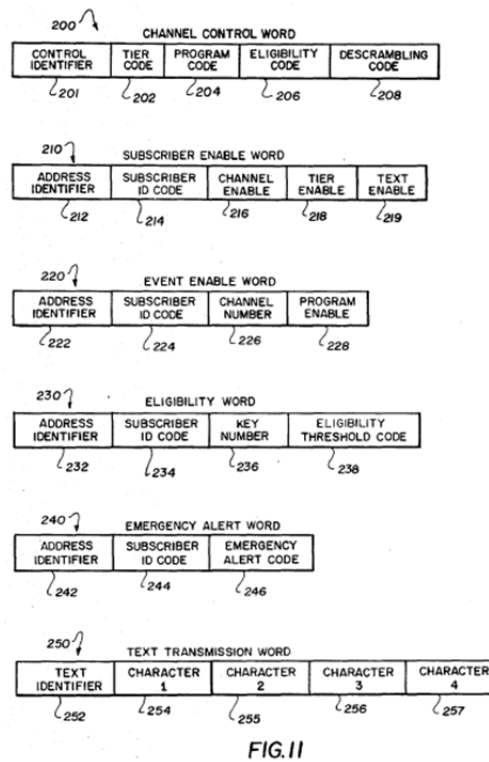
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	data generated by PCS 50 and text data generated by text formatters 54 (see FIG. 2). The control data is further divided into subscriber addressing data and channel control data. The format for both the control data and the text data is shown in the form of data words in FIG. 11. A channel control word 200 is generated by PCS 50 to define the codes required for access to each television program being transmitted. The codes identify the program to the converter of each user station so that a determination may be made as to whether the converter 40 will be enabled to process the given television signal to the television set of the user station. Channel control word 200 includes a tier code 202 defining the level of access required for the program in question. Channel control word 200 also includes a program identification code 204 to indicate whether the television program in question is a special event requiring further limitation on access by viewers to only those who have subscribed to the special event. An eligibility code 206 defines a rating which may be assigned to many of the television programs for subject matter which may not be suitable for viewing by all parties at the user station. Finally, a descrambling code 208 is transmitted as part of channel control word 200 to provide the converter with the code necessary to operate its video descrambler unit 116. Preferably, the descrambling code 208 is generated by the video scrambler 86 of HVP unit 52 when the signal is scrambled prior to transmission.")

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	'791 patent, Fig. 11 Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
13[c]. passing said instruct-to-enable signal to a processor;	*See* Claim 13[b]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
13[d]. determining a fashion in which said	*See* Claim 13[b].

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| receiver station locates a first decryption key by processing said instruct-to-enable signal; | *See also e.g.*:

'462 patent, 9:57-10:54 ("The clock pulses from the onemegahertz data clock 107 are transmitted to a data signal gate 112 over line 113, and there used to clock the encoded control signals input at 85 into a conventional serial shift register 114. The clock signals from the one-megahertz data clock 107 are also directed to a data bit counter 115 over line 116, the counter being connected to generate a signal on line 117 when all bits of one line of the control signals have been clocked into the serial shift register 114. At this point, the serial shift register 114 contains the control signals that were encoded in one line of the vertical blanking interval. The signal on the line 117 indicating that all bits of the control signals have been decoded is connected by line 118 to the clear" terminal of the data clock flipflop 101. Thus, when all the data in a particular line has been decoded, the data clock flip-flop 101 is cleared to a zero condition, the clock gate 103 is thereby closed, and no further clock pulses are generated by the one-megahertz data clock 107. When the next horizontal synchronization pulse appears on the line 99, however, the data clock flip-flop 101 is set again, and the whole operation is repeated to clock another line of control signals into the serial shift register 114.

The signal on the line 117 indicating that the serial shift register 114 contains a full set of data, is also utilized to initiate operation of an address comparator 119, as shown by the line 120. The address comparator 119 uses conventional digital techniques to compare the setting of an identifier field, transmitted with the control signals and now in the serial shift register 114, with a unique address assigned to this particular unscrambler. It the comparison is unsuccessful, the control signals in the serial shift register 114 were not addressed to this particular unscrambler, and no further action is taken. In this event, the contents of the serial shift register 114 are lost after the next horizontal synchronization pulse initiating clocking of further control signals into the serial shift register, If, on the other hand, the address comparator 119 successfully matches the identifier field in the serial shift register 114 with the unique identifier of this particular unscrambler, then a control signal is generated on line 121 from the address comparator, and the contents of the serial shift register 114, excluding the identifier field, are gated over line 122 to the control register 88. The address comparator 119 also compares the identifier field in the serial shift register 114 with a special all-call identifier used to address all unscramblers in the system, and if a match is found, a control signal is generated on line 121 and the control register 88 receives new data over line 122. By means of this feature, all unscramblers in the system can be enabled or disabled with one control signal transmission.

The contents of the control register 88 include an unscramble on or off signal which is transferred to the |

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	scramble decoder 89 over line 123, to initiate or terminate unscrambling operations, and a mode select field which is also transmitted to the scramble decoder, over line 124, to select the mode according to which unscrambling is to be performed. The control register 88 may also contain a channel select field, as indicated at 125, and this may be connected to the channel selector 28 (FIG. 2) for the purpose of channel selection by remote control from the central computer 18 (FIG. 1), as shown by the dotted line 126 in FIG. 2.")
	'462 patent, 12:1-15 ("In summary. the logic illustrated in FIG. 3 operates to decode control signals encoded in the vertical blanking interval of the composite of video and synchronization signal, compares the address or identifier contained in the encoded control signals with the unique address of the particular unscrambler, and if a match is found, stores the control signals in the control register 88 for subsequent use by the scramble decoder 89. For the last or nth line of control signals decoded, there is no identifier encoded in the incoming signals, but there may still be control information contained in the serial shift register 114, and this is conveyed directly to the scramble decoder 89, where it will be of significance only if a previous control signal has been received to enable the particular unscrambler.")
	Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
13[e]. locating said first decryption key based on said step of determining;	*See* Claim 13[b]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
13[f]. decrypting said encrypted information using said first decryption key; and	*See e.g.*: '462 patent, Abstract ("Method and apparatus for scrambling and unscrambling television video and audio signals in a subscription television system in which program selections of subscribers are known at a central transmitting site, and control signals encoded into vertical blanking intervals of the video signals are addressed to receivers authorized to receive unscrambled transmissions, to selectively control unscrambling at those receivers. In an unscrambler at each subscriber's receiver, the control signals are decoded, and, if addressed to the particular subscriber's receiver, operate to enable or disable the unscrambler, or to frequently vary its mode of operation, thereby greatly increasing the security of the system and deterring viewing of scrambled transmissions. Video scrambling and unscrambling are effected

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by inversion of selected horizontal lines of a transmitted television picture, and possible modes of scrambling and unscrambling include inversion of alternate groups of equal numbers of lines, inversion or non-inversion selected on a line-by-line basis, with an appropriate control signal being transmitted with each line, and inversion or non-inversion in a preselected sequence, as determined by synchronized logic at the receivers and the transmitting site.")

'462 patent, 1:42-57 ("The present invention resides in a method and apparatus for scrambling and unscrambling television signals, wherein the mode of scrambling and unscrambling may be varied automatically and continually in order to increase the security of the system and to deter unauthorized viewers. Briefly, and in general terms, the method of the invention, as it relates to unscrambling at a receiver, includes the steps of receiving encoded control signals and encoded identifiers of authorized receivers along with scrambled television signals, decoding the encoded control signals and identifiers, comparing the received identifiers with a unique identifier associated with the receiver, and, if the comparison results in a match, automatically unscrambling the television signals in accordance with an unscrambling mode contained in the control signals.")

'462 patent, 2:6-16 ("There is an unscrambling means, or unscrambler, at each subscribers receiver, and it basically includes decoding means, to decode the control signals and encoded identifiers, identifier comparison means, to accept only control signals intended for the particular receiver, and scramble decoder means, to unscramble the television signals in accordance with an unscrambling mode contained in the control signals. The audio portion of a television signal may also be scrambled, and the unscrambler may include means for unscrambling these audio signals at the receiver site.")

'462 patent, 2:32-66 ("The scrambled video signals produced by inversion of some of the horizontal picture lines are unscrambled at each authorized receiver by one of the unscramblers, which are functionally complementary to scrambling means at the transmitter. In the preferred embodiment, receiver identifiers and control signals are encoded into a conventionally formed, composite video and synchronization signal, specifically in those portions of the video and synchronization signal relating to vertical blanking intervals, during which a conventional television picture tube has its electron beam returned to the top of the tube after scanning a complete field of the picture.
In the unscrambler at a particular receiver, these identifiers and control signals are decoded, and the identifiers are compared with the unique identifier associated with the receiver. If a match is found, the control signals are further decoded and applied in the unscrambler to enable or disable unscrambling, to change the mode of unscrambling, or to select a particular program on a separate frequency channel. If no

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match is found, the control signals have no special meaning for the receiver in question. However, a special all-call" identifier is available to allow all receivers in the system to be controlled, regardless of whether or not they have been individually addressed to enable unscrambling. Also, certain control signals have meaning for all receivers which have been previously specifically addressed to enable unscrambling operations. In particular, an unscrambler synchronization signal, used to synchronize scrambling and unscrambling, is in this latter category, and, in one embodiment, the unscrambling mode for all enabled unscramblers may be changed by control signals not associated with a particular identifier.")

'462 patent, 5:56-6:10 ("The unscrambler logic 45 receives control signals encoded in the composite video and synchronization signal along line 46, and operates to generate two basic output control signals: and [sic] "invert" or "non-invert" signal on lines 47 and 48, respectively, connected to the gating circuits 38 and 39 to control inversion or non-inversion of the video signal, and an "unscramble on" or "off" signal on lines 49 and 51, respectively, connected to additional gating circuits S2 and 53, respectively, to control audio unscrambling. The audio IF signal on line 33 takes one of two parallel paths 54 and 55 as determined by the gating circuits 52 and 53, the path 54 passing through an audio unscrambler 56 before merging with the alternate path 55 and being input over line 57 to conventional oscillator and modulator circuits 58. The composite video and synchronization signal, as unscrambled under the control of the unscrambler logic 45, is also input to the oscillator and modulator 58, over line 59, and is there used together with the audio signal input over line 57 to modulate a high frequency carrier signal in a conventional manner. The carrier signal is output from the unscrambler 17 to the receiver 16 through an output terminal 61.")

'462 patent, 8:13-33 ("In accordance with the present invention, the mode by which the scrambling and unscrambling operations are performed may be varied automatically and rapidly in order to increase the security of the system and to deter unauthorized viewing. In brief, the scrambler-encoder 14 (FIG. 1) encodes into the television signal control signals addressed to a particular unscrambler l7 and directing it to initiate or terminate unscrambling operations, to change the mode of unscrambling, or to tune to a different incoming program. The unscrambler 17 (FIG. 1), and more specifically, the unscrambler logic 45 (FIG. 2), operate to decode the control signals and to perform the appropriate control function if it is addressed to the unscrambler 17 in question. If a subscriber has not paid or been charged for a particular program, the unscrambler 17 will not be directed to unscramble the program, which can be viewed, therefore, only in scrambled form. Since the scrambler-encoder 14 can be controlled to select a scrambling mode which results in extremely disconcerting patterns on the receiver 16, most unauthorized viewers are deterred from viewing a scrambled program. Furthermore, the system has a high degree of security, because the mode of

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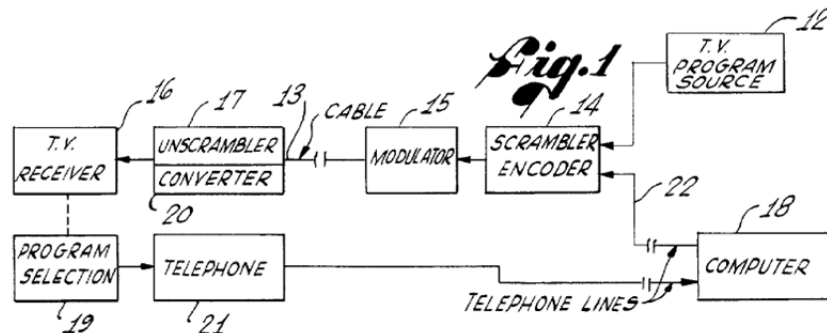|	
	scrambling may be rapidly varied in a practically random fashion.") '462 patent, 6:36-60 ("The unscrambler logic 45 (FIG. 2) will now be described in greater detail with reference to FIG. 3. Basically, the logic illustrated in FIG. 3 operates to receive control signals encoded in the composite video and synchronization signal, at the terminal 85, to decode those control signals, utilizing the stretched vertical synchronization pulse input at 86 and the stretched horizontal synchronization pulse input at 87, and, if the control signals are addressed to the unscrambler in question, to place the decoded control signals in a control register 88. A scramble decoder 89, alternative embodiments of which will be discussed with reference to FIGS. 7-9, then uses the contents of the control register 88, along with other available signals, to generate the invert" or non-invert signal, as shown at 91. This signal and its inverse, produced by an inverter 90, are the signals transmitted over the lines 47 and 48, respectively, in FIG. 2, and as will be recalled from the description of FIG. 2, these signals are used to control the gating circuits 38 and 39 (FIG. 2) and thereby to unscramble the scrambed video signals.") '791 patent, 9:15-26 ("A conventional video descrambler unit 116 processes the scrambled base-band video signal from the tuner and provides a descrambled base band video signal which is directed to a text/graphics generator 118. The scramble/descramble timing signal generated by the scrambler controller 90 of HVP unit 52 and transmitted to converter 40 as part of the control data is processed by converter control logic 40 and input on line 101 to the video descrambler 116 to control is operation. The channel sound information is amplitude adjusted or muted by an audio level/mute control unit 120 controlled by a signal on data line 122 from logic 104.") '791 patent, 13:61-14:8 ("Event enable word 220 comprises additional enabling data sent to the converter for special events. As with word 210, word 220 includes an address code 222, and a unique subscriber identification code 224. The special event to be viewed is identified by a channel number code 226 and a program enable code 228 which together provide the data necessary for the converter to be enabled so that the user can view the special event. The event enable word 220 is also generated by PCS 50 and transmitted to converter 40 where it is stored in converter control logic 104. Only by having the appropriate codes in logic 104 at the time that the special event is broadcast, can a subscriber view the program on the indicated channel. Thus the event enable word controls access at a particular time on a given channel during which a special event is transmitted.") '217 patent, 7:10-28 ("In STV mode, the video and/or audio signals are encoded (scrambled) by the

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encoders 18 and 20. Appropriate data signals are added to the encoded program signal and the composite signal is transmitted. Subscribers having a decoder with the proper decoding (unscrambling) and tier data can unscramble the received TV signal and supply the unscrambled signal to their TV sets for viewing and listening. Among the incoming data placed on the TV signal at appropriate times are, in addition to or as part of the data required for decoding, signals providing addressing capabilities for individual decoders, tiering and/or program content category signals, cost information signals relating to program charges for individual programs, program identification signals and credit information signals providing payment credits to individual decoders. As will be seen hereinafter, at least the cost, credit, program identification or use code and address data provide unique impulse purchase capability.") '217 patent, 8:9-19 ("The baseband signal from the demodulator 34 includes a video portion and an audio portion within defined bands of the overall TV band width. This baseband signal is supplied to the video decoder where the video portion is unscrambled under the control of the microprocessor if the incoming signal is scrambled, the decoder is operating in the STV mode, and other criteria are met as described hereinafter. A normal video signal passes unchanged through the video decoder with the decoder in the normal mode of operation.")

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	'462 patent, Fig. 2: Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
13[g]. outputting said programming based on said step of decrypting.	*See e.g.:* '462 patent, 5:56-6:10 ("The unscrambler logic 45 receives control signals encoded in the composite video and synchronization signal along line 46, and operates to generate two basic output control signals: and [sic] "invert" or "non-invert" signal on lines 47 and 48, respectively, connected to the gating circuits 38 and 39 to control inversion or non-inversion of the video signal, and an "unscramble on" or "off" signal on lines 49 and 51, respectively, connected to additional gating circuits S2 and 53, respectively, to control audio unscrambling. The audio IF signal on line 33 takes one of two parallel paths 54 and 55 as determined by

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the gating circuits 52 and 53, the path 54 passing through an audio unscrambler 56 before merging with the alternate path 55 and being input over line 57 to conventional oscillator and modulator circuits 58. The composite video and synchronization signal, as unscrambled under the control of the unscrambler logic 45, is also input to the oscillator and modulator 58, over line 59, and is there used together with the audio signal input over line 57 to modulate a high frequency carrier signal in a conventional manner. The carrier signal is output from the unscrambler 17 to the receiver 16 through an output terminal 61.")

'791 patent, 9:15-26 ("A conventional video descrambler unit 116 processes the scrambled base-band video signal from the tuner and provides a descrambled base band video signal which is directed to a text/graphics generator 118. The scramble/descramble timing signal generated by the scrambler controller 90 of HVP unit 52 and transmitted to converter 40 as part of the control data is processed by converter control logic 40 and input on line 101 to the video descrambler 116 to control is operation. The channel sound information is amplitude adjusted or muted by an audio level/mute control unit 120 controlled by a signal on data line 122 from logic 104.")

'217 patent, 7:10-28 ("In STV mode, the video and/or audio signals are encoded (scrambled) by the encoders 18 and 20. Appropriate data signals are added to the encoded program signal and the composite signal is transmitted. Subscribers having a decoder with the proper decoding (unscrambling) and tier data can unscramble the received TV signal and supply the unscrambled signal to their TV sets for viewing and listening. Among the incoming data placed on the TV signal at appropriate times are, in addition to or as part of the data required for decoding, signals providing addressing capabilities for individual decoders, tiering and/or program content category signals, cost information signals relating to program charges for individual programs, program identification signals and credit information signals providing payment credits to individual decoders. As will be seen hereinafter, at least the cost, credit, program identification or use code and address data provide unique impulse purchase capability.")

'217 patent, 8:47-57 ("The unscrambled audio and video signals are applied to the remodulator 44 to produce an appropriate RF signal for application to a conventional TV receiver. For example, the modulator 44 may produce an RF signal in the TV channel 3 band so that all signals passing through the decoder can be viewed on this one TV channel. In addition, the baseband audio and video signals are provided at output terminals 46 and 48 so they are available for other purposes such as information (data) transmission, teletext, etc.")

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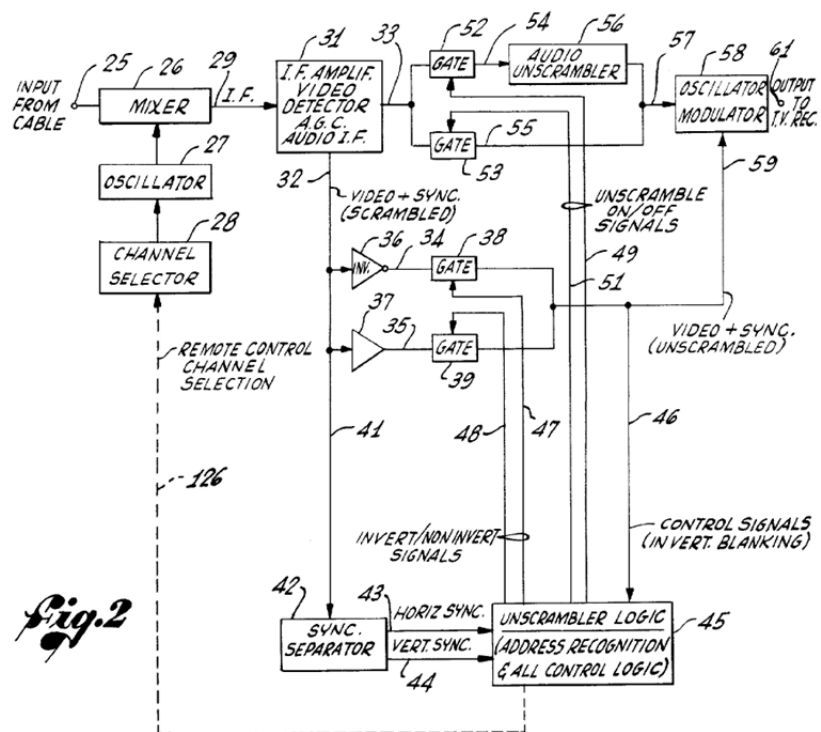|	'462 patent, Fig. 1:
	'462 patent, Fig. 2:

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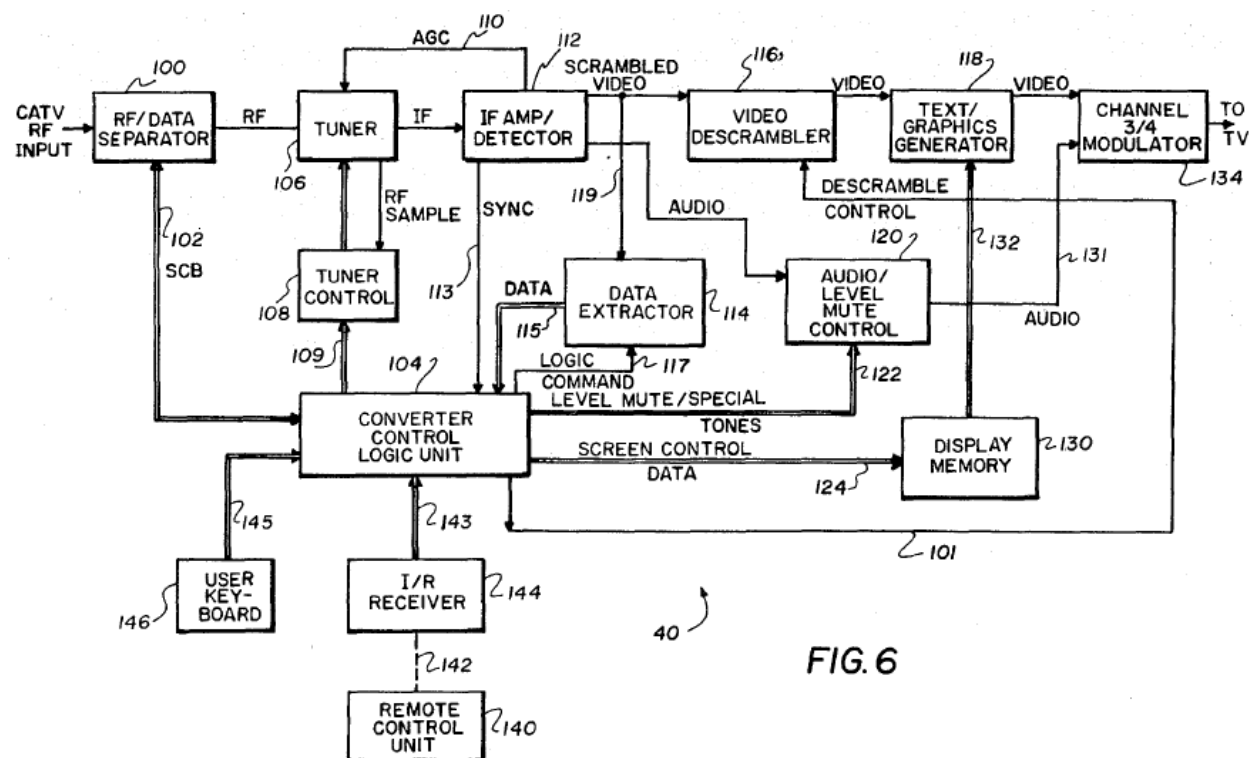
'791 patent, Fig. 6:

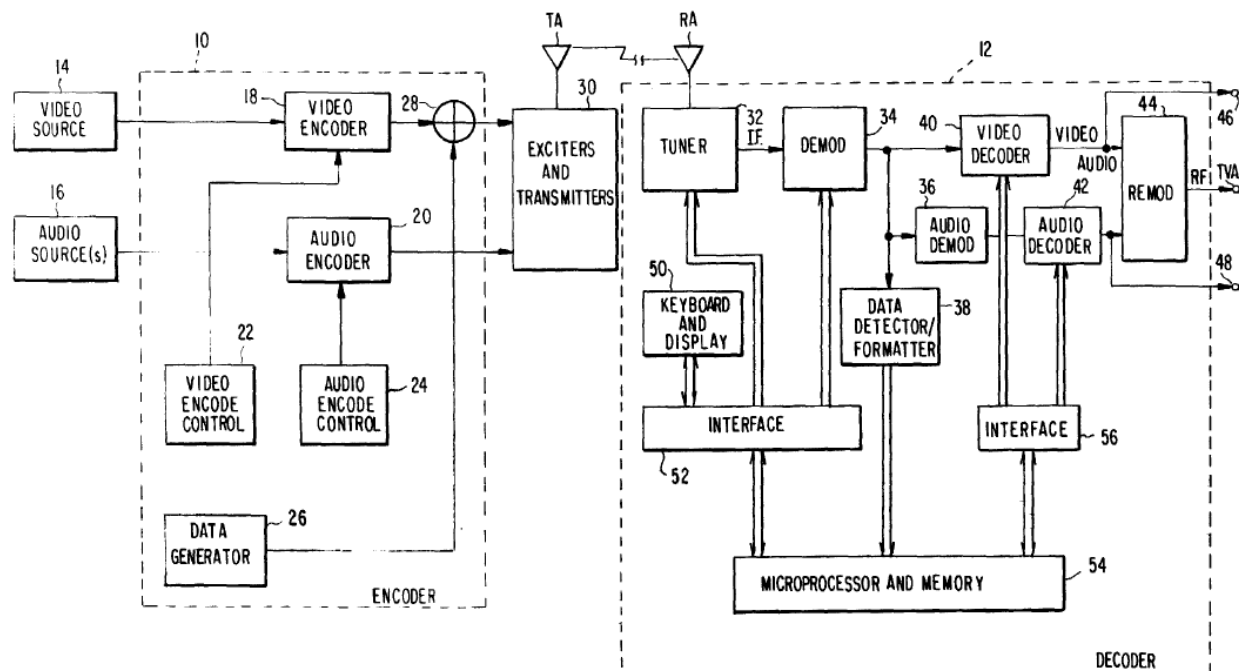
FIG. 6

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'217 patent, Fig. 1:

FIG. 1

Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.

14[a]. The method of claim 13, further comprising the step of computing a second decryption key, and	*See* Claim 13[b]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
14[b]. wherein said step of decrypting comprises	*See* Claim 13[f].

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decrypting said encrypted information using said first and second decryption keys.	Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
15. The method of claim 14, wherein said first and second decryption keys are used to decrypt a video portion of said programming.	*See* Claim 13[f]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
16. The method of claim 13, further comprising the step of storing information evidencing said step of decrypting.	*See e.g.*: '217 patent, 3:29-52 ("Each scrambled program capable of impulse purchase is transmitted with data including the cost of the program in a part of the television signal which does not convey program information (e.g., the vertical or horizontal interval or an unused portion of the audio frequency band). A unique code may also accompany the transmitted cost signal for program identification purposes. If the subscriber's decoder recognizes the program as an impulse purchase program, certain information such as the cost of the program is displayed. To view the program, the subscriber enters into the decoder an appropriate request, and the decoder automatically compares the program cost with the available credit, e.g., by temporary storage of the cost information and substraction from the existing credit. If the cost does not exceed the credit and the subscriber otherwise is eligible for impulse purchase, the program can be unscrambled and the cost is deducted from the credit or otherwise used to obtain a new credit total. Also, the unique program code, if transmitted with the cost information, is stored for subsequent retrieval as an encoded "use code" so that the subscription TV operator can be provided with a record of the impulse purchase programs viewed.") '217 patent, 13:62-14:16 ("If the subscriber decides to view the IPC program, the cost of that program is subtracted from the existing IPC credit in the IPC credit storage register 80, and the decode control 98 is enabled. In addition, the use code associated with that program is stored in the IPC use code storage register 124 by summing it with the existing use code or, alternatively, by a program code encoding technique described hereinafter. In this regard, the use code used in the FIG. 4 embodiment is preferably a unique value which, when summed with other unique use codes for programs during a billing period, will

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	always produce a unique sum. In this manner, the use code will always provide an accurate indication of the identity of IPC programs viewed (or IPC services used) during a billing period. If very few IPC programs are delivered during a billing period, the use code may be unnecessary, particularly if the IPC programs all differ in cost. In fact, the IPC program costs may be arranged, e.g., by using odd cents, so that the total cost of any combination of IPC programs is a unique number. Moreover, program identification numbers may be recorded and encoded to provide a unique use code as is described hereinafter.") '784 patent, 2:26-45 ("In this system, the guests in the rooms 2 of the hotel 1 can see and hear television programs by operating the television sets 3. Television broadcast signals received by the antenna 12 are retransmitted through the cable 5 to the television sets 3 and, in addition, programs which are provided independently in the center 4 are also transmitted to the television sets 3. If any one of the television sets 3 is operated, its condition of use is transmitted through the cable 5 to the center 4. The time of use and the channel in use are communicated through the data cable 8 to the computer 7 and are stored therein The times of use are summed by the computer 7 so that, when the guest checks out, he is charged for the usage which is displayed on the display unit 10 at the cashier's station 9. Sometimes, special programs are provided for television channels. In the case where such television channels are used by a guest, the periods of the television channels are summed so that the guest is additionally charged for the special programs when he checks out of the hotel.") Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
18. The method of claim 13, wherein said encrypted information includes television programming.	*See* Claim 13[a]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
20[pre]. A method of decrypting programming at a receiver station, said method comprising the steps of:	*See* Claim 13[pre]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.

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20[a]. receiving an encrypted digital information transmission including encrypted information;	*See* Claim 13[a]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
20[b]. detecting in said encrypted digital information transmission the presence of a first instruct-to-enable signal including first processor instructions;	*See* Claim 13[b]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
20[c]. executing said first processor instructions of said first instruct-to-enable signal to provide a first decryption key;	*See* Claim 13[b]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
20[d]. detecting in said encrypted digital information transmission the presence of a second instruct-to-enable signal including second processor instructions;	*See* Claim 13[b]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
20[e]. executing said second processor instructions to provide a second decryption key;	*See* Claim 13[b]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.

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20[f]. decrypting said encrypted information using said first and second decryption keys; and	*See* Claim 13[f]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
20[g]. outputting said programming based on said step of decrypting.	*See* Claim 13[g]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
21. The method as in claim 20, further comprising the step of storing information evidencing said step of decrypting.	*See* Claim 16. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
23. The method of claim 20, wherein said first and second decryption keys are used to decrypt a video portion of said programming.	*See* Claim 15. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
24. The method of claim 20, wherein said encrypted information includes television programming.	*See* Claim 18. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
26[pre]. A method of decrypting programming at a receiver station, said	*See* Claim 13[pre]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the

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method comprising the steps of:	applicable section of Exhibits C1-C19.
26[a]. receiving an information transmission including encrypted information;	*See* Claim 13[a]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
26[b]. detecting the presence of an instruct-to enable signal;	*See* Claim 13[b]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
26[c]. passing said instruct-to-enable signal to a processor;	*See* Claim 13[c]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
26[d]. automatically tuning said receiver station to a channel designated by said instruct-to-enable signal;	*See e.g.*: '263 patent, 4:5-20 ("The information user is the end recipient of videotex data and full motion video segments. His terminal, be it a dedicated device like a personal computer or a television set with a special decoder box, will interface to the telephone network and the CATV network. Connection to the hybrid network must first be set up over the telephone link and then a videotex session can take place. During the session, a full motion video segment may be requested via the telephone data connection. A data message will be returned to the terminal dictating the time and channel of the segment broadcast. The terminal will force tune its CATV receiver to that channel at the appropriate time and receive the requested broadcast. When the user is not using the videotex service, the hybrid network will not interfere with his normal telephone and CATV service.") '980 patent, 37:48-28:12 ("Yet another message sent from the CCC to an ECU is a FORCE TUNE message, illustrated in FIG. 15. This message is used to cause an addressed ECU to force tune any drop associated with that ECU to any channel. Force tuning may be used, for example, to cause all subscriber television sets connected to the CATV system to tune to a channel on which instructions and news may be

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| | communicated to subscribers in the event of a civil emergency. Also, this message may be used to automatically tune a subscriber's television set at the appropriate date and time to a channel carrying a pay-per-view program (such as a boxing match) which the subscriber requested to view. As shown in FIG. 15, a typical FORCE TUNE message includes the usual ADDRESS (ADL and ADH) and BYTE COUNT (N) bytes. Next follow a COMMAND (CMD) byte equal to hex F4 (11110100) to identify the message as a FORCE TUNE message, and a DATA COUNT byte (NN) equal to 2. Thereafter, a SUBSCRIBER UNIT (SU) byte specifies the particular subscriber unit to be force tuned. In one embodiment, the SU byte specifies any one converter using the byte's three least significant bits. This requires a FORCE TUNE message to be transmitted for each converter to be force tuned. Alternatively, each bit of the SU byte may be associated with a different one of six converters such that a single message to an ECU can force tune more than one converter associated with the ECU. Finally, a logical channel (LC) byte specifies the logical channel number to which the specified converter should be force tuned. If the SU byte is associated with more than one converter, there would be a plurality of LC bytes, one for each converter being force tuned.")

'462 patent, 10:43-54 ("The contents of the control register 88 include an "unscramble on" or "off" signal which is transferred to the scramble decoder 89 over line 123, to initiate or terminate unscrambling operations, and a mode select field which is also transmitted to the scramble decoder, over line 124, to select the mode according to which unscrambling is to be performed. The control register 88 may also contain a channel select field, as indicated at 125, and this may be connected to the channel selector 28 (FIG. 2) for the purpose of channel selection by remote control from the central computer 18 (FIG. 1), as shown by the dotted line 126 in FIG. 2.")

'462 patent, Claim 43 ("43. A method as set forth in claim 41, wherein said controlling step includes selectively controlling channel selection at the subscriber location in response to channel selection signals included with the control signals.")

'791 patent, 14:29-50 ("The fourth word which is transmitted as part of the subscriber addressing data is emergency alert word 240. This word is normally transmitted only when there is an emergency for one or more user stations which requires an alert to be sent. An address code 242 identifies the word as a part of the subscriber addressing data. Word 240 also includes a subscriber identification code 244 and an emergency alert code 246. Emergency alert code 246 preferably identifies one of several different messages which may be displayed on the screen of the user station and/or one or more annunciator devices which may be activated to further alert parties at the user station. Emergency alert word 240 is preferably |

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generated by PCS 50 for transmission to converter 40 only if an emergency has occurred. If converter 40 receives an emergency alert word 240, the program being viewed by the user station is overridden by switching to a "home channel" for the broadcast of emergency alert messages and signals. If the television set is off, it is turned on by the converter 49 so that the emergency signals and messages may be transmitted**.**")

'555 patent, 7:13-22 ("Nonvolatile memory unit 20 is connected by way of memory bus 24 to microprocessor 410. In addition to the aforementioned credit and debit information, nonvolatile memory unit 20 preferably contains a number of data codes which do not require changing in the normal operation of the system and which uniquely identify addressable converter 40. These data codes include the identification number of addressable converter 40, the frequency configuration acceptable for addressable converter 40, and the "home channel" number, that is the channel number to which addressable converter 40 will be tuned in the event of an emergency alert signal.")

'784 patent, 7:32-56 ("The spot channel is used to allow particular information to appear in the entire area or a particular part of the entire area of the picture tube of the television set. For instance, it is necessary to inform all of the guests of the occurrence of a fire. In this case, if a message as shown in FIG. 7 is made on the television sets, then the guests in the hotel can know of the fire through their television sets.
In transmission of such information, the data transmitter 28 in the center 4 applies a down-data signal carrying spot information to each of the main units 33. This down-data signal is applied, as down-data g, to the communication control circuit 42 through the branching filter 36 and the down-data receiver 40 whereupon the communication control circuit 42 applies the control signal h to the tuning voltage generator 54 so that a tuning voltage i corresponding to the spot channel frequency is inputted to the channel converter 38. As a result, a television set receiving any channel is forced to receive the spot channel. In the case when the television set is not switched on, the communication control circuit 42 applies the control signal c to the power relay 45 so as to forcibly operate the television set 3. Thus, the information as shown in FIG. 7 is transmitted to the guests through all of the television sets.")

'974 patent, 1:56-2:3 ("Another television market research system is shown in U.S. Pat. No. 3,639,686, issued Feb. 1, 1972 to Harold R. Walker and Ira Kamen for Television Receiver Cut-In Device. In one embodiment of this system an auxiliary television signal is broadcast throughout a broadcast area with a particular control signal identifying the class of viewers that is to be reached by the auxiliary television signal. The television receivers have special decoders for switching to the special signal under certain conditions when the receiver receives a particular address signal identifying the respective receivers as in

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<td>the class to which the signals are to be transmitted. This system also suffers from the limitation that the classes are determined by the programming of the various receiver decoders and cannot thereafter be selected or subdivided at the will of the market research people.")

'974 patent, 2:65-3:31 ("At each panelist receiving station there are control means responsive to the signal substitution signals for selectively switching a substitute television program into a normal channel being viewed. The control means includes a generator of a local panelist address signal corresponding to the respective panelist receiving station and a substitute channel selector for producing substitute channel selector control signals corresponding to at least one substitute transmission channel over which the substitute television program signals are sent. A first comparator compares each of the received panelist address signals with the respective local panelist address signal and produces a first match signal when the compared signals match. A second comparator compares the received normal channel identification signal with the channel select signal selected by the viewer and produces a second match signal when the compared signals match. A switching circuit responds to the first and second match signals to effect the switching of a substitute channel selector control signal to the cable television frequency converter in lieu of the channel control signal selected by the viewer for a period determined by the signal substitution control signals. The selected panelist television receiver thereupon receives the program in the corresponding substitute channel in lieu of the program of the channel selected by the viewer. Thus, the operators of the system can control the television messages being received by the panelists and further can target specific panelists for receipt of particular messages. Those panelists having local panelist address signals that do not match any of the panelist address signals sent by the transmitter do not see the substitute programs. The system operates in such way that the viewer cannot tell whether he is receiving the normal program or a substitute program.")

Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.</td>
</tr>
<tr>
<td>26[e]. receiving enabling information from a remote source based on said step of tuning;</td>
<td>*See e.g.*:

'784 patent, 7:32-56 ("The spot channel is used to allow particular information to appear in the entire area or a particular part of the entire area of the picture tube of the television set. For instance, it is necessary to inform all of the guests of the occurrence of a fire. In this case, if a message as shown in FIG. 7 is made on the television sets, then the guests in the hotel can know of the fire through their television sets. In transmission of such information, the data transmitter 28 in the center 4 applies a down-data signal</td>
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| | carrying spot information to each of the main units 33. This down-data signal is applied, as down-data g, to the communication control circuit 42 through the branching filter 36 and the down-data receiver 40 whereupon the communication control circuit 42 applies the control signal h to the tuning voltage generator 54 so that a tuning voltage i corresponding to the spot channel frequency is inputted to the channel converter 38. As a result, a television set receiving any channel is forced to receive the spot channel. In the case when the television set is not switched on, the communication control circuit 42 applies the control signal c to the power relay 45 so as to forcibly operate the television set 3. Thus, the information as shown in FIG. 7 is transmitted to the guests through all of the television sets.")

'791 patent, 2:36-49 ("It is desirable in many instances to dedicate an entire television channel to the transmission of data rather than video signals. Prior art systems for dedicated data channels typically require special transmitters and receivers different from those used for the transmission of video signals in order to achieve the desired high baud (bits per second) rate to efficiently utilize the channel bandwidth. This special data transmission equipment has resulted in substantial cost and complexity, particularly at each remote user terminal where a different receiver is usually required for each dedicated data channel. A simple and inexpensive system for the high speed transmission of data on a dedicated data channel has been greatly needed.")

'791 patent, 5:24-48 ("FIG. 1 shows a simplified block diagram of a one-way cable television system 10 in accordance with the present invention. A head end station 11 includes a central data system 12 utilizing a control computer which gathers data from a wide variety of sources and formats the data for transmission on video frequency channels. The central data control system preferably has a two-way interface link 13 with a remote computer which may be used for central control and billing functions. The formatted data is then transmitted by communications link 14 to a television program processor 16 where it is incorporated into the vertical blanking intervals of video signals generated by a variety of television program sources. In addition, the data may be formatted for transmission in a separate channel dedicated only for the transmission of data. The dedicated data channel transmissions are connected over link 18 to a head end signal combiner 20 where they are combined with a plurality of video signals transmitted from television program systems 16 along transmission link 22. The head end unit then transmits the combined cable television and data signal to remote subscribers. Normally, the signals are then transmitted through a cable network, referred to as a cable plant to a plurality of subscribers.")

'791 patent, 18:50-66 ("With reference to FIGS. 14-17 another preferred embodiment of the present invention is shown. In the system shown therein, a data transmission system is disclosed for the |

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	transmission of data in portions of the video field in addition to the vertical interval portion. This type of data transmission over a substantial portion of the video field is referred to herein as full-channel or full-field data transmission. This data can be control data or textual or graphic data for visual display, called "teletext" data. The data transmitted in this system is formatted in the line or video format shown in FIGS. 2B and 11, in order to simplify the need for additional transmission and reception equipment as compared to the previously described system of the present invention. The data to be transmitted is encoded at the head end in the video format shown on FIG. 2B for a substantial number of lines in the entire video field.") Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
26[f]. decrypting said encrypted information by processing said enabling information; and	*See* Claim 13[f]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
26[g]. outputting said programming based on said step of decrypting.	*See* Claim 13[g]. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
27. The method of claim 26, further comprising the step of storing information evidencing said step of decrypting.	*See* Claim 16. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.
30. The method of claim 26, wherein said encrypted information includes television programming.	*See* Claim 18. Additional prior art that discloses this limitation and is combinable with the present prior art is found in the applicable section of Exhibits C1-C19.